



George C. Marshall Space Flight Center
Marshall Space Flight Center, Alabama 35812

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BASELINE
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ORGANIZATIONAL WORK INSTRUCTION

MG01

MICROGRAVITY RESEARCH PROGRAM OFFICE CONFIGURATION MANAGEMENT PROCEDURE FOR ISS DOCUMENTATION AND CHANGE EVALUATION

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DOCUMENT HISTORY LOG

Document Revision	Status (Baseline/ Revision/ Canceled)	Effective Date	Description
Baseline		1/11/99	MRPO Configuration Management Procedure for ISS Documentation and Change Evaluation

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MICROGRAVITY RESEARCH PROGRAM OFFICE

CONFIGURATION MANAGEMENT PROCEDURE FOR ISS IMPLEMENTATION AND CHANGE EVALUATION

1.0 SCOPE

1.1 Scope. This procedure defines the responsibilities, documentation requirements, and the related processes to provide configuration management activities for the receipt, distribution and response to change and document evaluations to the controlling technical requirements and interfaces, and programmatic requirements as defined by ISS CCBs for implementation by Microgravity Research Program Office (MRPO) activities.

1.2 Purpose. The purpose of this procedure is to provide a clear definition of MRPO CM and MRPO evaluator responsibilities necessary for the evaluation of ISS changes and documents.

1.3 Applicability This procedure is applicable to Microgravity Programs and Projects as defined in the Microgravity Research Program Plan.

2.0 APPLICABLE DOCUMENTS

NPG7120.5	<i>NASA Program and Project Management Processes and Requirements</i>
TBD	<i>Microgravity Research Program Plan</i>
ISO 10007	<i>Quality Management-Guidelines for Configuration Management</i>
MRPO-OWI-MG01.1	<i>MRPO Management Process</i>
SSP 41170	<i>Configuration Management Requirements</i>
SSP 50123	<i>Configuration Management Handbook</i>

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3.0 DEFINITIONS

The definitions that apply herein are contained in Microgravity Research Program Plan with the following additions:

- The MRPO Screening group consists of the representatives of Technical, Programmatic, and CM disciplines.

4.0 MRPO CONFIGURATION MANAGEMENT REQUIREMENTS

4.1 Mandatory Evaluators. All supporting MRPO centers must provide the names(s) of their mandatory evaluator that will be responsible for submitting evaluation responses of ISS changes and documents to the MRPO CM Receipt Desk. Names can be submitted either electronically or in writing. The name(s) of the mandatory evaluator will remain on file at the MRPO CM Receipt Desk until notification has been received changing the mandatory evaluator. Upon lack of identification of a mandatory evaluator, the MRPO supporting center manager will be the representative.

4.2 Document Review Requirements. The mandatory evaluator at all supporting MRPO centers are responsible for providing evaluations to the MRPO CM Receipt Desk. At a minimum, evaluations to the ISS changes and documents determined applicable to the MRPO will be required.

Each center shall be responsible for identifying cost and schedule impact statements to MRPO that accurately reflect the impact of ISS directives and changes. The impact statements shall be sufficiently detailed to describe the labor costs and man-hours, materials, and documentation costs associated with the ISS Directives and changes. The impact statements shall include justification for the proposed exceptions or waiver of the requirement that causes the cost/schedule impact.

The MRPO Configuration Management Organization (CMO) at MSFC, shall provide configuration management activities for the receipt, distribution and response to ISS change and document evaluations for all MRPO projects. The CMO shall track and notify projects of delinquent responses and notify the MRPO Representative of response status. The CMO shall attend, take and publish actions

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for the PIRN Technical Review (PTR) and Payload Control Board (PCB) meetings. The CMO shall also attend, take and publish minutes for the MRPO Level II tag-up meeting.

5.0 ISS DOCUMENT REVIEW PROCESS

The CMO, with guidance from the MRPO Level II Designated Representative for ISS, shall implement an evaluation process for all ISS documentation affecting MRPO ISS payloads. This documentation includes, ISS Technical Change Memos (TCMs), ISS Specification Change Memos (SSCMs), ISS Change Requests (CRs), documents in the JSC/OZ, Preliminary Interface Revision Notices (PIRNS), JSC/OZ Payload Control Board (PCB) Action Items, and Action Items from the MRPO Deputy for ISS. The MRPO CR, TCM, SSCM Screening Process is included in paragraph 5.7. The MRPO PIRN Screening Process is included in paragraph 5.3 and the MRPO CD Screening Process is included in paragraph 5.8.1.

5.1 ISS Program Approved Payload Baseline. Using the information provided by the JSC PALS and JSC/OZ website, the CMO will prepare and maintain a list of the approved Payload Control Board (PCB) baseline documentation.

5.2 PIRN Evaluation Process. MRPO's PIRN Evaluation Process begins when JSC loads the PIRNs onto the Program Automated Library System (PALS). The following steps are incorporated in this process:

- The MRPO Screening group, representatives of Technical, Programmatic, and CM disciplines, screens all PIRNs for those that are applicable to MRPO payloads.
- The MRPO Receipt Desk sends notification for evaluation to the mandatory evaluator by stating which PIRNs are applicable to their respective payloads.
- Evaluators attend the PTR for the dispositions of PIRNs.
- If a PIRN is to be reworked, the MRPO receipt desk will send notification to the MRPO evaluators when it has been posted on PALS.

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- If the PIRN is withdrawn or rejected at PTR, it is sent to the MRPO Receipt Desk where it is filed.
- At PTR, if the PIRN is determined to have impacts, the MRPO Receipt Desk sends a Change Evaluation (CE) request with a 4-week review period.

Mandatory evaluators prepare CEs with a Rough Order of Magnitude (ROM) detailed cost estimate, schedule, and technical impacts. The CEs are sent to MRPO Receipt Desk and recorded in the accounting system.

Level II Technical Representative and the Change Package Evaluator (CPE) consolidate the CEs and obtain a Level II signature.

The MRPO Receipt Desk records the signed consolidated CE and PIRN in the accounting system, faxes a copy to JSC CM and files the originals.

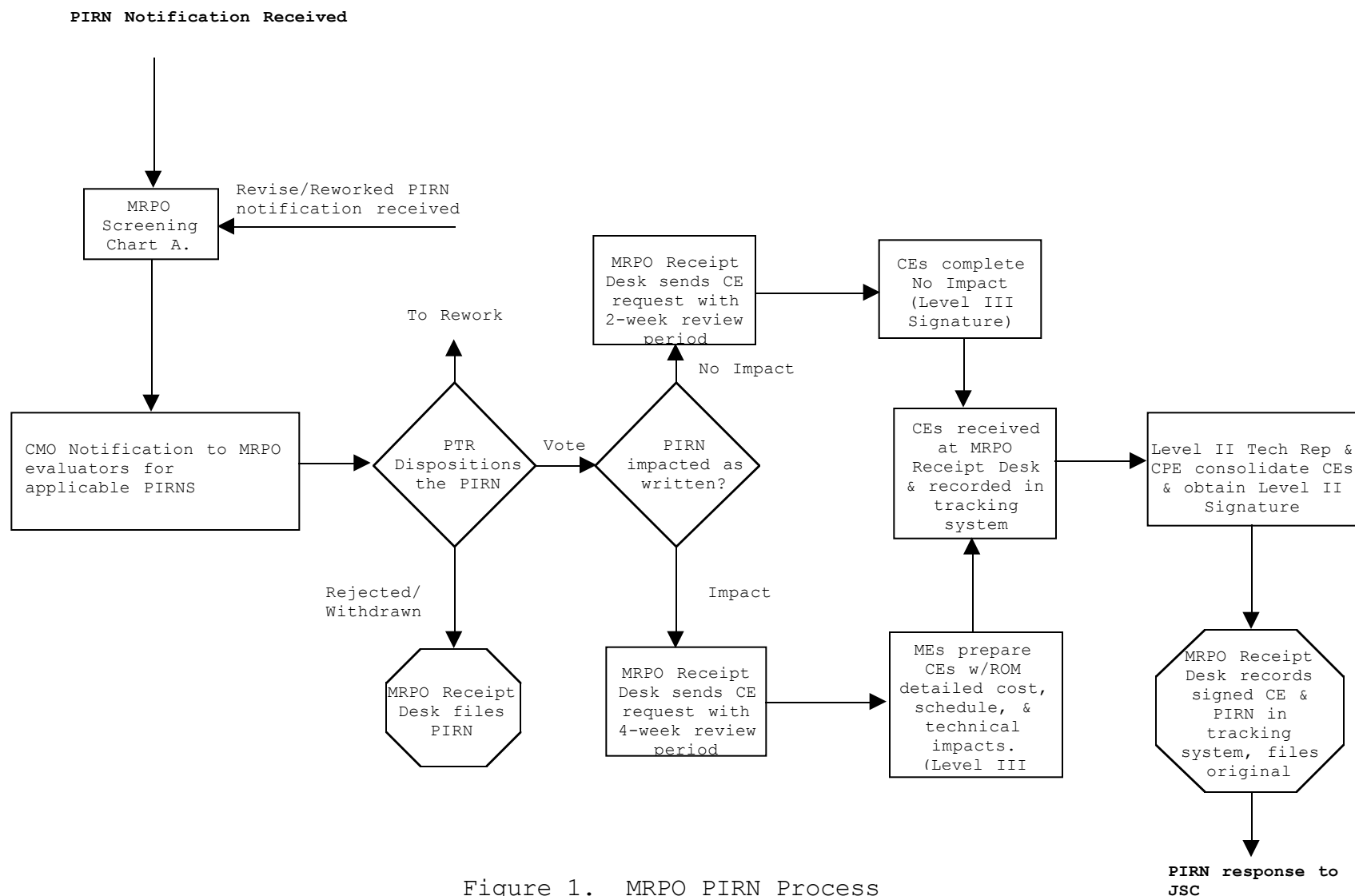
- At PTR, if the PIRN determined to have no impact, the MRPO Receipt Desk sends a CE request with a 2-week review period.

CEs are sent back to the MRPO Receipt Desk with a Level III signature and are recorded in the accounting system.

Level II Technical Representative and CPE consolidate the CEs and obtain a Level II signature on the CE and the PIRN.

MRPO Receipt Desk records the signed consolidated CE and signed PIRN in the accounting system, faxes a copy of the CE and first page of the PIRN to JSC CM and files the originals.

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5.3 MRPO PIRN Screening Process. The MRPO Screening group will provide a PIRN screening function for all MRPO supporting centers.

The MRPO PIRN screening process begins when the JSC CMO loads a new or revised PIRN onto the PALS. A description of the process is given below and depicted in Figure 2.

- MRPO CM Receipt Desk reviews PIRN to determine affected documents and searches database for document.

Following completion of the first step, the screening process will follow one of two scenarios.

- Scenario 1: Affected Document in Database

Receipt Desk sends notification(s) of MRPO applicability to evaluator(s).

- Scenario 2: Affected Document Not in Database

Receipt Desk forwards PIRN(s) to MRPO Screening Committee.

Screening Committee determines MRPO applicability to evaluator(s).

Receipt Desk updates database based on Screening Committee finding(s).

Receipt Desk sends notification of MRPO applicability to evaluator(s).

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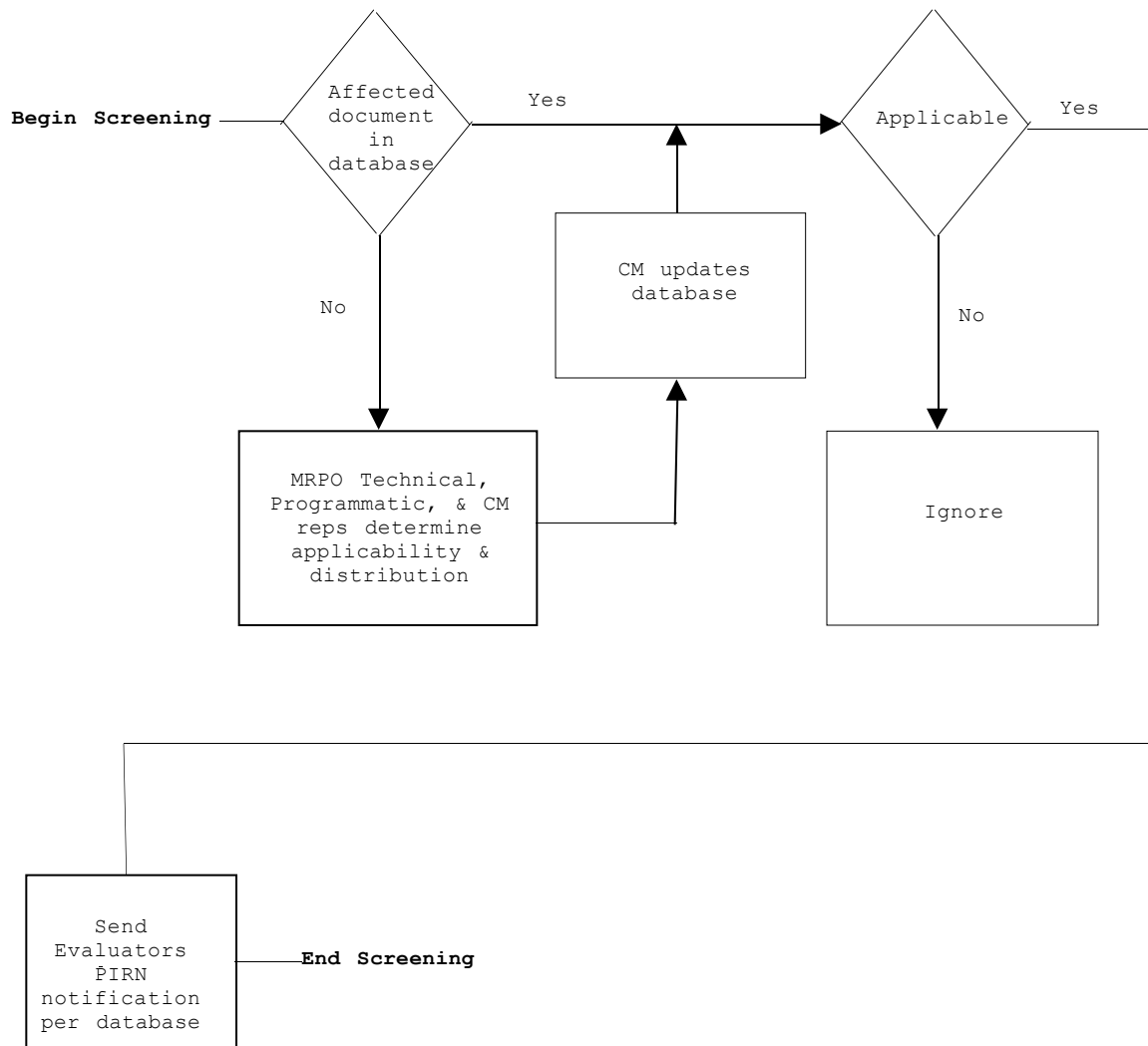


Figure 2. MRPO PIRN Screening Process

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5.4 CR Evaluation Process. MRPO's CR Process begins when a CR notification is sent from the ISS CM Receipt Desk to the MRPO Receipt Desk. The process is as follows:

- MRPO Receipt desk reviews notification to determine JSC suspense date. The notification receipt date, the CR number and JSC suspense date is recorded in the tracking system.
- CR is submitted to Screening group. If CR is applicable, the MRPO Receipt Desk sends CR notification to specific Mandatory Evaluators with a suspense date and records the date sent and the suspense date in the tracking system.

MRPO CM Receipt Desk sends notification ISS CM of change applicability. (If CR is non-applicable, the MRPO Receipt Desk files the CR.)

- Mandatory evaluators prepare CEs. When there is an impact, CEs will contain a ROM detailed cost estimate, schedule, and technical impacts.
- MRPO Receipt Desk receives signed CEs with Level III signature and records CEs and dates received in the tracking system.
- CEs are sent to Level II Technical Representative and to CPE to consolidate and obtain Level II signature.
- MRPO Receipt Desk records consolidated CE and date forwarded to JSC in tracking system, forwards copy to JSC CM, and files original.

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ISS CM Receipt Desk sends
CR notification to the MRPO
Receipt Desk

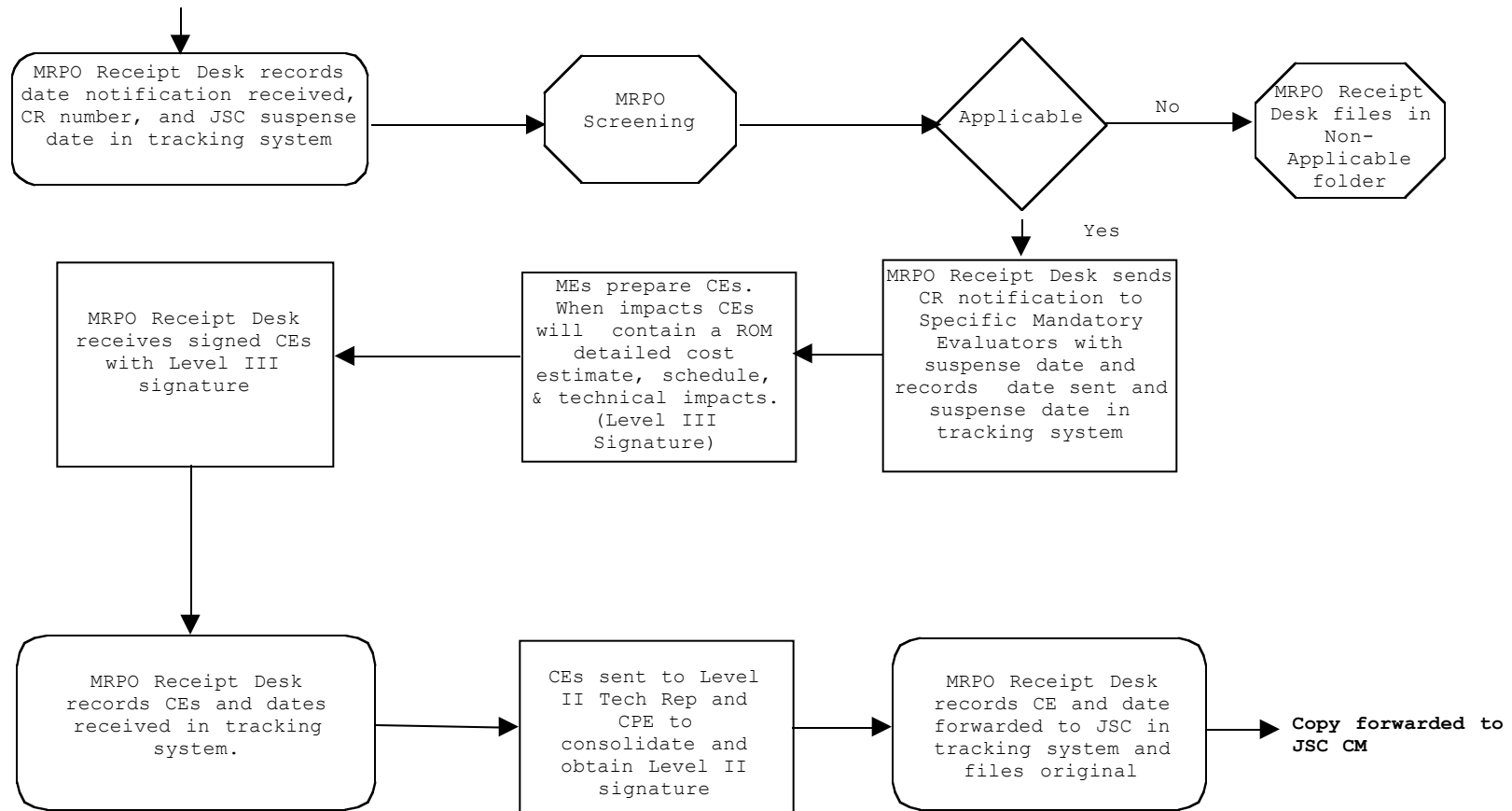


Figure 3. CR Evaluation Process

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5.5 TCM Evaluation Process. MRPO's TCM Process begins when a TCM notification is sent from the ISS CM Receipt Desk to the MRPO Receipt Desk. The process is as follows:

- MRPO Receipt desk reviews notification to determine JSC suspense date. The date the notification was received, the TCM number, and the JSC suspense date are recorded in the tracking system.
- TCM is submitted to Screening group. If TCM is applicable, the MRPO Receipt Desk sends TCM notification to Specific Mandatory Evaluators with a suspense date and records the date sent and the suspense date in the tracking system, advise of scheduled TCM.

MRPO CM Receipt Desk sends notification ISS CM of change applicability. (If TCM is non-applicable, the MRPO Receipt Desk files the TCM.)

- Mandatory evaluators prepare CEs. When there is an impact, CEs will contain a ROM detailed cost estimate, schedule, and technical impacts.
- MRPO Receipt Desk receives signed CEs with Level III signature and records CEs and dates received in the tracking system.
- MRPO Receipt Desk forwards telephone number of interested MRPO evaluator(s) to JSC for participation in TCM telecon.
- CEs are sent to Level II Technical Representative and to CPE to consolidate and obtain Level II signature.
- MRPO Receipt Desk records consolidated CE and date forwarded to JSC in tracking system, forwards to JSC CM and files original.

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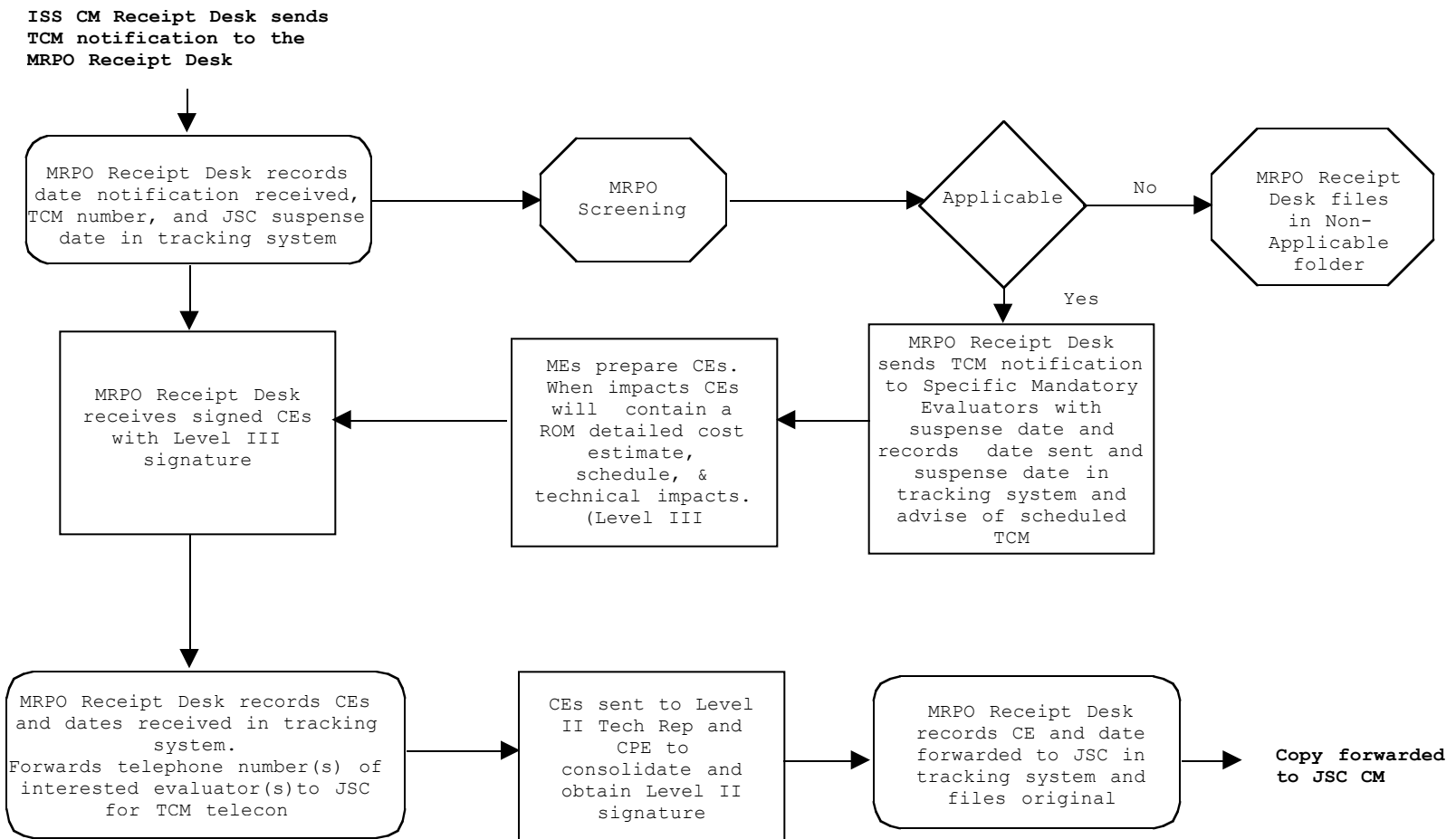


Figure 4. TCM Evaluation Process

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5.6 SSCM Evaluation Process. MRPO's SSCM Process begins when notification is sent from the ISS CM Receipt Desk to the MRPO Receipt Desk. The process is as follows:

- MRPO Receipt Desk reviews notification to determine JSC suspense date. The date the notification was received, the SSCM number, and the JSC suspense date are recorded in the tracking system.
- SSCM is submitted to Screening group. If SSCM is applicable, the MRPO Receipt Desk sends SSCM notification to Specific Mandatory Evaluators with a suspense date and records the date sent and the suspense date in the tracking system.

MRPO CM Receipt Desk sends notification ISS CM of change applicability. (If SSCM is non-applicable, the MRPO Receipt Desk files the SSCM.)

- Mandatory evaluators prepare CEs. When there is an impact, CEs will contain a ROM detailed cost estimate, schedule, and technical impacts.
- MRPO Receipt Desk receives signed CEs with Level III signature and records CEs and dates received in the tracking system.
- CEs are sent to Level II technical representative and CPE to consolidate and obtain Level II signature.
- MRPO Receipt Desk records consolidated CE and date forwarded to JSC in tracking system, forwards to JSC CM and files original.

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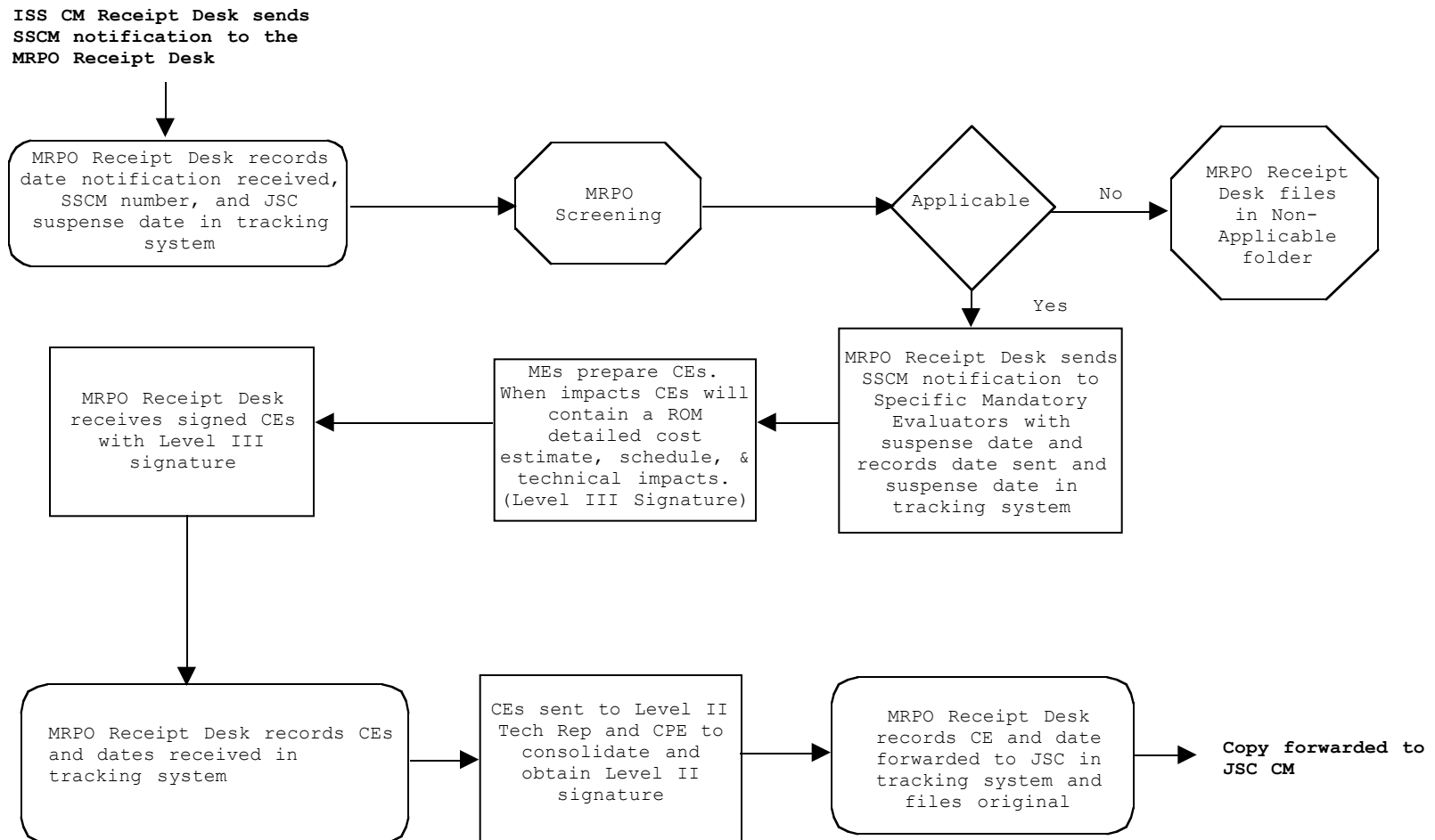


Figure 5. SSCM Evaluation Process

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5.7 MRPO CR, TCM, SSCM Screening Process. The MRPO will provide a CR, TCM, and SSCM screening function for all MRPO supporting centers.

The screening function begins when the ISS CM Receipt Desk sends notification of a new or revised change to the MRPO CM Receipt Desk. A description of the process is given below and depicted in Figure 6.

- MRPO CM Receipt Desk searches tracking log for the change SSCN.

Following completion of the first step the screening process will follow one of two scenarios.

- Scenario 1: Change in Database

Receipt Desk sends notification(s) of MRPO applicability to evaluator(s).

- Scenario 2: Change Not in Database

Receipt Desk forwards change to MRPO Screening Committee.

Screening Committee determines MRPO applicability to evaluator(s).

Receipt Desk updates database based on Screening Committee finding(s).

Receipt Desk sends notifications of MRPO applicability to evaluators.

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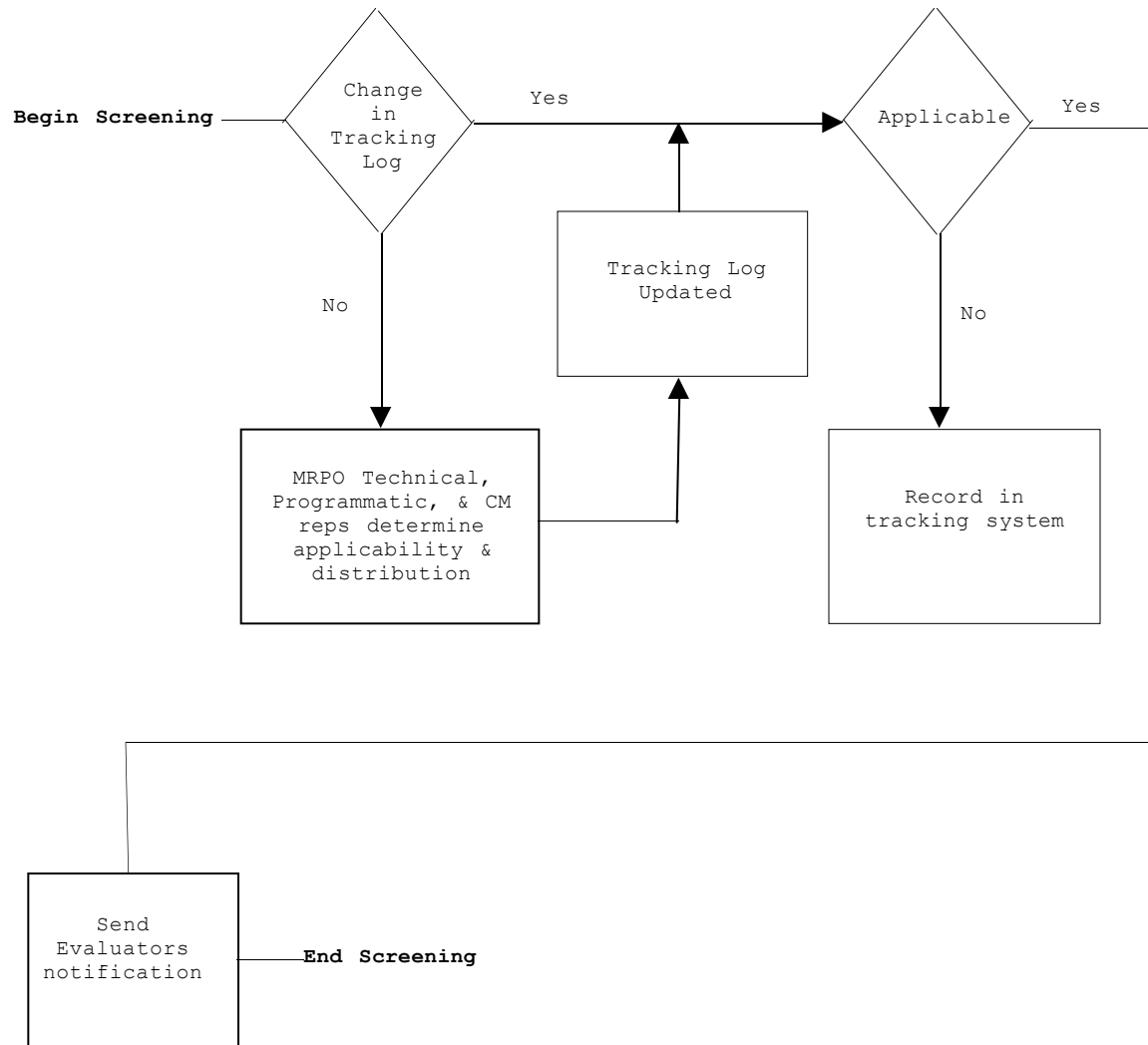


Figure 6. MRPO CR, TCM, SSCM Screening Process

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5.8 CD Evaluation Process.

5.8.1 MRPO CD Screening Process. The MRPO will provide a CD screening function for all MRPO supporting centers.

The screening function begins when the ISS CM Receipt Desk sends notification of a new or revised CD to the MRPO CM Receipt Desk. A description of the process is given below and depicted in Figure 5.8.

- MRPO CM Receipt Desk searches tracking log for the CD SSCN.

Following completion of the first step, the screening process will follow one of two scenarios.

- Scenario 1: SSCN Listed "Applicable to MRPO"

Receipt Desk forwards CD to MRPO Screening Committee.

Screening Committee compares CD to CR to determine if there are any discrepancies.

If there are no discrepancies found, the CD implementation process will begin.

If discrepancies are found, notification will be given to the designated MRPO ISS representative.

5.8.2 CD Implementation Process.

5.8.2.1 Procedure to Implement Change Directives. The procedure to implement ISS change directives issued in behalf of the JSC/OZ Payload Control Board or other ISS CCBs that affect the MRPO program elements is shown in Figure 8. After the CD is signed and posted in the ISS Program Automated Library System (PALS) the Level II CMO shall forward notification to the MRPO Level III Project CMO to implement the CD and provide a copy to Level II MRPO CMO.

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5.8.2.2 Filing of Closeout Package. Upon receipt of Level III documentation the Level II CMO shall enter the documentation into files as quality records.

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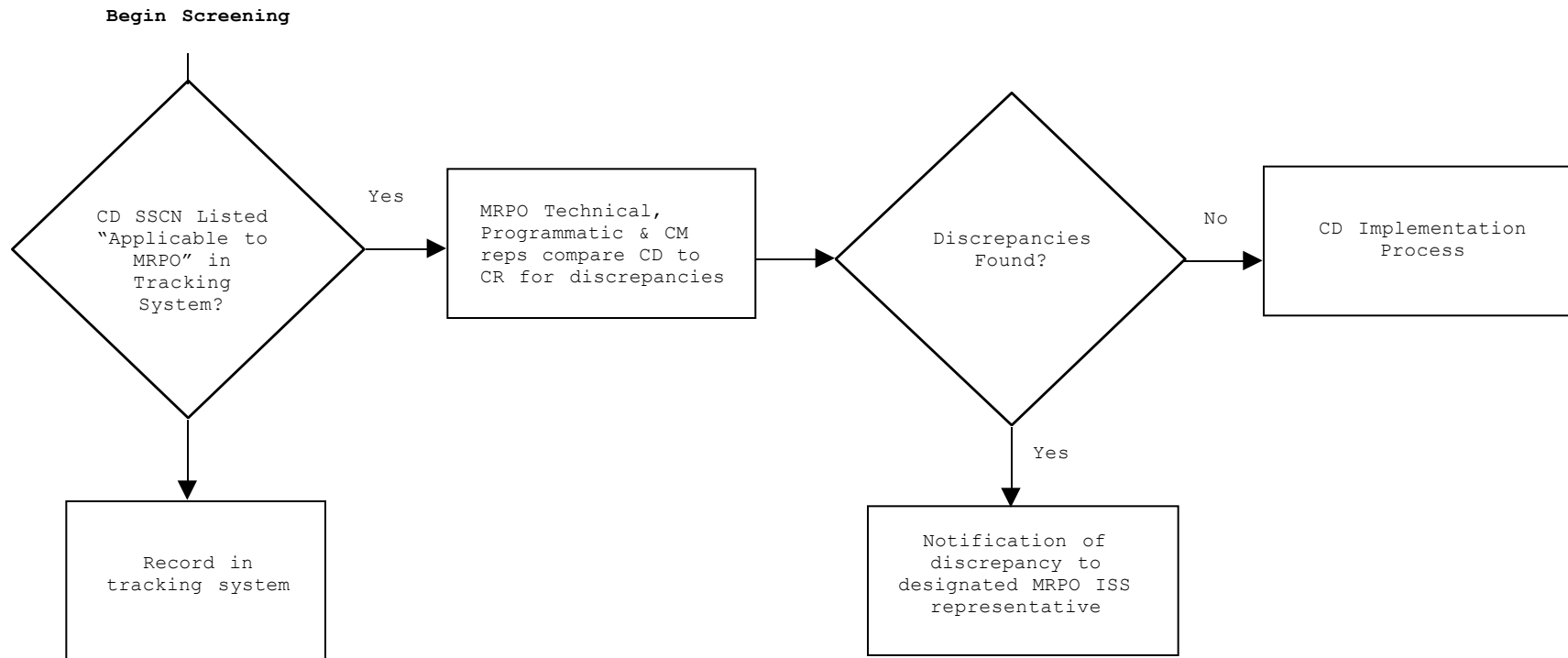


Figure 7. MRPO CD Screening Process

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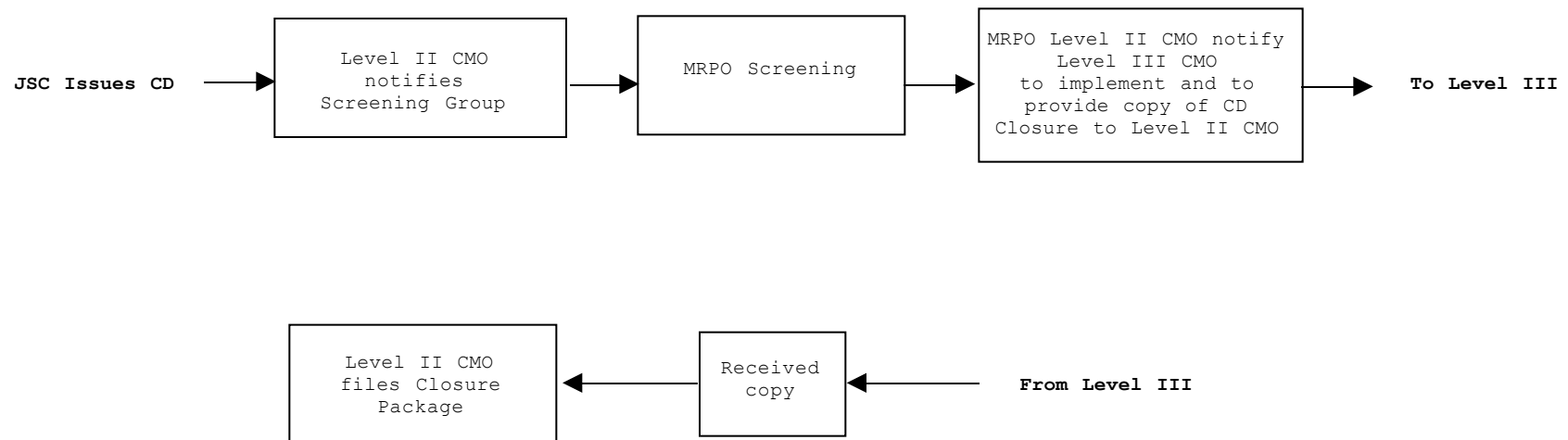


Figure 8. CD Implementation Procedure

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5.9 JSC/OZ Document Baseline Evaluation Process.

Identification and distribution of JSC/OZ documents are according to the following guidelines:

- ISS CM Receipt Desk sends a document to the MRPO Receipt Desk.
- MRPO Receipt Desk records the document in the tracking system.
- Document is submitted to the screening group. If the document is applicable, MRPO Receipt Desk sends the document to Specific Mandatory Evaluators with a suspense date and records the date sent and the suspense date into the tracking system.

(If the document is non-applicable, the MRPO Receipt Desk electronically files this information into the tracking system.

- MRPO Receipt Desk receives signed CEs with Level III signature and records CEs into the tracking system.
- CEs are sent to CPE to consolidate and obtain Level II signature.
- MRPO Receipt Desk forwards copy to ISS CM and files original.

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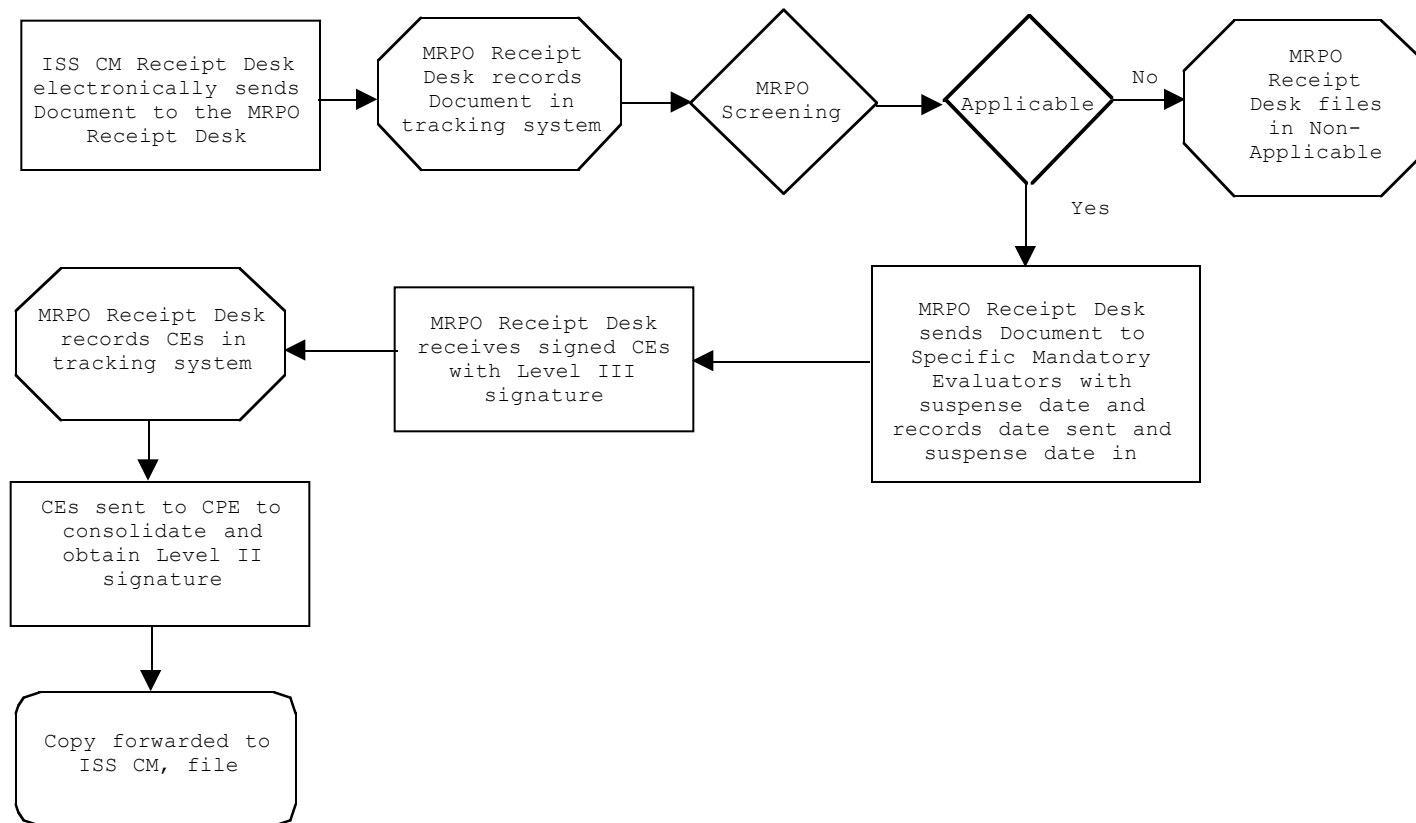


Figure 9. Identification and Distribution of JSC/OZ Documents

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5.10 JSC/OZ Action Item Evaluation Process.

- Go to Open Actions on the PCB Home Page on the web.
- Find assigned actions for MRPO actionee.
- Notify actionee of action and date of presentation at PCB.
- File Action item and when closed the closure data in folder.

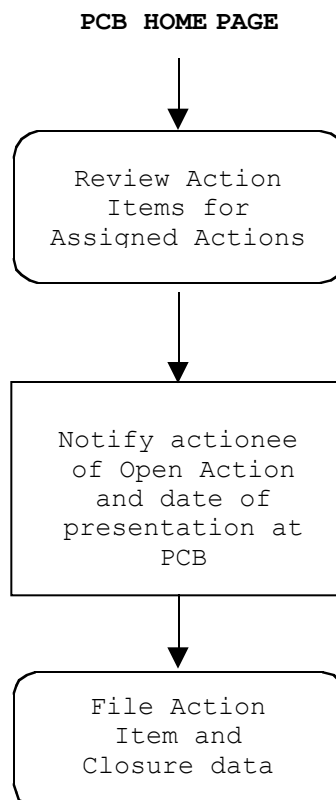


Figure 10. Identification & Distribution of JSC/OZ Action Items

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6.0 QUALITY RECORDS

Change Evaluations, consolidated change evaluations, signed PIRNs, letters or messages indicating assignment of Mandatory Evaluators, and related data processed in accordance with any evaluation shall be maintained in accordance with MSFC-P16.1, Control of Quality Records, MMI 1440.2, MSFC Records Management; and NPG 1441.1, NASA Records Retention Schedule 8/9. The CCB Secretariat or designee will serve as the record custodian.

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